

# 9. Organizational aspects. GEMA diffusion

## 9.1 Continuity of care

**C** Healthcare professionals should provide asthma patients with continuous care in order to ensure adequate prevention, diagnosis, control, treatment and follow-up<sup>1</sup>, so that coherence of coordinated healthcare over time (continuity of care)<sup>2</sup> is perceived by the users.

**C** It is a priority to identify the current state of healthcare for patients with asthma<sup>3-8</sup> to provide solutions in the three types of continuity of care: information (availability of data of previous episodes at different levels of care), relationship (between patients and providers) and management (coordination of actions)<sup>9</sup>.

**D**  
**A** The multidisciplinary approach, the coordination between the levels of care, the patient's involvement and good management of social and healthcare resources are the essential elements to establish an integrated care network that provides quality care to patients with asthma<sup>10-12</sup>. The involvement of nursing, as demonstrated by the Finish program, is essential to achieve good asthma control<sup>13</sup>. Also, the collaborative practice between physicians and community pharmacists has a positive impact on the patients' health, improving the knowledge they have of their disease, their quality of life, adherence to treatment and control of the disease<sup>14-16</sup>.

**D** Actions to be implemented for improving continuity of care in asthma are shown in Table 9.1.

**D** Referral to specialized care has shown to be effective for adequate management of patients with asthma in selected cases<sup>34-37</sup>.

Clinical practice guidelines should describe the criteria by which a patient with asthma should be referred to an asthma specialist, but an effective referral system requires good coordination between healthcare providers at the different levels of care<sup>37</sup>.

In Spain, the consensus document on referral criteria for asthma<sup>21</sup>, developed by professionals of Primary Care Medicine, Pneumology and Allergology, establishes the circuit to be followed by the primary care physician in the event of suspected asthma, in the evaluation of the control and follow-up of asthma patients, as well the referral of patients with asthma from primary care to specialized care in the following circumstances:

- To confirm the diagnosis of asthma when this is not possible with the resources available in the primary care setting.
- To study comorbidities when this cannot be completed in the primary care setting.
- Patients with severe asthma and uncontrolled asthma.
- Special circumstances (allergological study, occupational asthma, aspirin-exacerbated respiratory disease [AERD], exercise-induced asthma and asthma in pregnancy).
- To study other diseases for the differential diagnosis with asthma.

For an adequate bidirectional communication between both levels of care and to improve continuity of care, the document proposes specific electronic referral templates and a minimum data set that should be included in specialized care reports of asthma patients<sup>21</sup>.

Table 9.1. Actions aimed to improve continuity of care in asthma

Healthcare professionals	Patients	Administration
GEMA implementation <sup>7,37</sup>	Education <sup>18,19</sup>	National Strategic Plan in Asthma (nonexistent)
Coordination between healthcare levels <sup>20,21</sup>	Adherence to treatment <sup>22,23</sup>	Integrated healthcare processes <sup>24</sup>
Consensuated criteria for asthma referral <sup>21</sup>	Action plans <sup>17,19</sup>	Universal electronic medical history <sup>25</sup>
Asthma units <sup>26</sup>	Self-control <sup>27-29</sup>	National registry of patients with severe asthma <sup>30,31</sup>
Importance of Nursing and Community Pharmacy <sup>16</sup> in the healthcare programs		Strategic plans adapted to local characteristics <sup>10</sup>
Use of computerized tools for asthma control <sup>32,33</sup>		Provide necessary resources

## 9.2 Asthma unit

C

Prospective data from a UK registry showed that management of patients with difficult asthma in dedicated severe asthma centers resulted in improved health-related quality of life (HRQoL) and less use of healthcare resources<sup>38</sup>. Some authors indicate that 1-day visit with extensive assessment in a severe asthma center is beneficial and sufficient for a large group of patients with uncontrolled asthma, reducing the need of high-cost special treatments<sup>39</sup>.

C

En In 2015, the asthma area of the Spanish Society of Pneumology and Thoracic Surgery (SEPAR) addressed the task of establishing the necessary requirements for the provision of official accreditation standards of the different levels of care for asthma units already existing in hospitals of the Spanish National Healthcare System. Accreditation levels included basic units, specialized units, or specialized units of high complexity, with or without the distinctive of excellence, according to the fulfillment of a series of criteria<sup>40</sup>. Also, recently the Spanish Society of Allergology and Clinical Immunology (SEAIC) has established criteria for accreditation of Severe Asthma Units (SAU) in the Allergology Services<sup>41</sup>.

C

These units coordinate the strategies aimed at improving the follow-up of patients with asthma, particularly those with severe asthma, interacting with other levels of care and with

all other specialists involved in care of asthma, as well as the use of complex diagnostic and therapeutic techniques that require rigorous knowledge and application. This strategy results in a personalized clinical approach that makes it possible to recognize individual needs and carry out special pharmacological or behavioral interventions (education, follow-up of adherence to treatment)<sup>42</sup>.

Given the complexity of asthma, different specialties (Otorrinolaryngology, Gastroenterology, Endocrinology, Psychology, Pharmacy, etc.) are involved to a greater or lesser extent in the care of asthma patients. It is indispensable to have available a specialized nurse who can perform all education tasks, including training and review of the inhalation technique, treatment adherence, self-management, written action plan and knowledge of the disease<sup>43</sup>.

The distribution of tasks that should be assumed by the Asthma Unit is shown in Figure 9.1.

Development of an Asthma Unit in a healthcare areas is associated with important clinical benefits for the patient (increases considerably the percentage of patients with well-controlled asthma and reduces exacerbations substantially), with a highly favorable cost-effectiveness balance. In this respect, implementation of an Asthma Units is a beneficial option both from the perspective of efficiency for the healthcare system, and from the perspective of the patient, improving health outcomes and quality of care<sup>26,44</sup>.

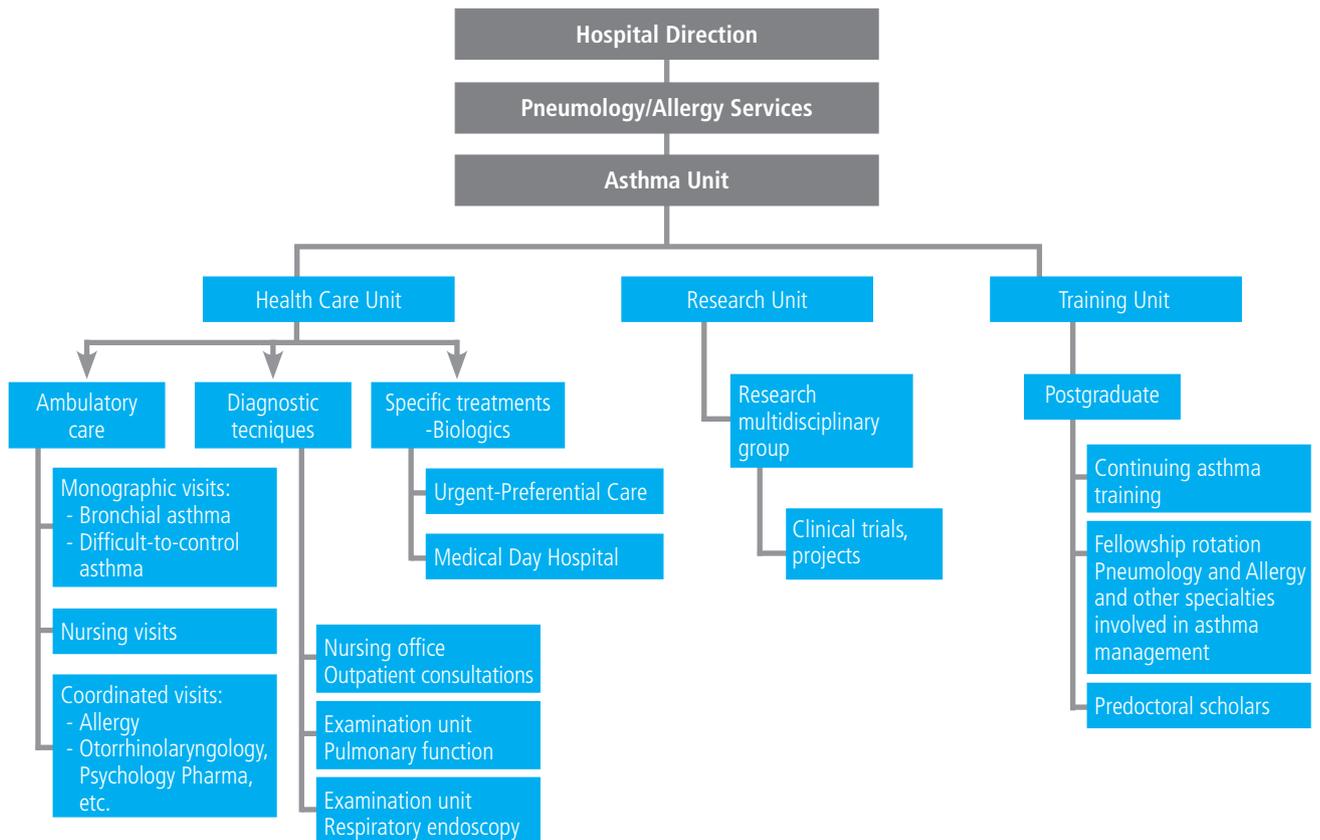


Figure 9.1. Working tasks and distribution of activities in a Specialized Asthma Unit in the hospital.

### 9.3 Implementation of GEMA

C For a clinical practice guideline (CPG) to be applied and adopted by healthcare professionals, three indispensable sequential key steps should be addressed: diffusion, implementation, and evaluation. The diffusion of a CPG (be means of medical and scientific publications, mailing, workshops, symposia and computer-based tools via Internet) will not be effective if is not accompanied by a proper implementation<sup>45-47</sup>.

C However, CPGs for asthma do not seem to meet this requirement. A study that aimed to evaluate the quality of these CPGs using the AGREE II instrument, found that none reached a score higher than 60% (minimum recommended level) in the evaluation of their respective implementation plans (domain 5: applicability or implementation)<sup>48</sup>.

D For the correct application and implementation of a CPG, Graham proposes a series of structured and stepwise planning in order to transfer knowledge into action (*knowledge-to-*

*action*)<sup>49</sup>. The diffusion and implementation plan of GEMA is based in part on such principles and includes the following 8 actions:

1. **Specific healthcare area.** For plan implementation a specific healthcare territorial area will be defined in order to assign a selected zone to a reference hospital and the various primary care teams assigned to the hospital.
2. **Analysis of needs and local deficiencies.** An audit will be performed in order to detect weak points and deficiencies in disease management within that territory.
3. **Executive Committee.** A multidisciplinary group of experts in asthma pertaining to the implementation area will be set up. The committee will comprise expert physicians (pneumologists, allergologists, primary care physicians and pediatricians) as well as influential representatives from the local nursing and pharmacy settings.
4. **Drawing up a functional document based on GEMA**<sup>50</sup>. The Executive Committee will adapt evidences and

Table 9.2. Healthcare quality indicators for asthma proposed by the multidisciplinary expert group (Asmaforum II)

Grups of indicators	Indicator	Calculation
I. Diagnosis	1. <b>Diagnostic confirmation by means of spirometry with bronchodilation test.</b> Diagnostic confirmation of patients with asthma is established by spirometry and bronchodilation test as an objective measurement of functional involvement.	Number of patients with asthma undergoing spirometry x 100/ number of patients diagnosed with asthma.
	2. <b>Sensitization study in allergic asthma.</b> Patients with suspicion of allergic asthma should undergo a study of possible sensitization to different allergens.	Number of patients diagnosed with suggestive medical history of allergic asthma undergoing sensitization study to different allergens x 100/ number of patients diagnosed with asthma.
II. Non-pharmacological treatment	3. <b>Smoking cessation.</b> Smoking cessation is recommended in smokers with asthma.	Number of smoking patients with asthma and registered recommendation to quit smoking x 100/smoking patients with asthma.
	4. <b>Education plan for patients with asthma.</b> Patients with asthma should follow a basic education program (including knowledge of the disease and its treatment, written action plan and inhalation technique) as part of their management.	Number of patients with asthma with an asthma education program x 100/number of patients with asthma.
III. Pharmacological treatment	5. <b>Treatment of choice in persistent asthma.</b> The treatment of choice in persistent asthma includes the use of inhaled glucocorticoids (IGC) on a daily basis. In some cases, there may be justification for using leukotriene receptor antagonists as an alternative treatment.	Number of patients on control treatment due to persistent asthma receiving IGC x 100/number of patients on control treatment due to persistent asthma.
	6. <b>Treatment of asthma in the pregnant woman.</b> In the maintenance treatment of asthma in pregnancy, it is recommended to maintain usually administered medications ( $\beta_2$ -adrenergic agonists and inhaled glucocorticoids).	Number of women with asthma who maintain their usual treatment ( $\beta_2$ -adrenergic agonists and inhaled glucocorticosteroids) during pregnancy x 100/pregnant women with asthma on maintenance treatment.
IV. Follow-up	7. <b>Periodic follow-up of patients.</b> Need to establish a periodic follow-up of patients based on scheduled medical appointments, even in the absence of exacerbations.	Number of scheduled follow-up visits (non-unexpected) per patient per year x 100/number of patients with asthma on follow-up by year.
	8. <b>Periodic registry of exacerbations.</b> Specific assessment of exacerbations are periodically evaluated.	Number of patients with asthma in whom exacerbations have been evaluated and documented x 100/number of patients with asthma.

D

recommendations from GEMA<sup>5,0</sup> to the local healthcare reality according to the resources assigned to the area, the type of professionals and their training level.

D

5. **Material resources.** A minimal amount of material resources should be available in the area in order to ensure the application of the guideline. Specific resources will include: spirometries (of good quality throughout the area) in all centers; electronic medical history (EMH) shared among healthcare levels; standardized asthma symptom questionnaires (ACT, ACQ); placebo-containing inhalation devices to be used in education programs to instruct patients in the inhalation technique; an accredited specialized hospital Asthma Unit, fitted with a complete technical equipment (bronchoprovocation tests, FE<sub>NO</sub>, allergy skin tests, CT).

D

6. **Training plan.** An educational intervention on asthma will be performed among both medical and nursing professionals in the area.

D

7. **Professional motivation plan.** Administrative authorities will be engaged in promoting adherence of professionals involved in the “Implementation Plan” by setting up appropriate motivational interventions.

D

8. **Evaluation and follow-up plan.** To determine the impact of the “Implementation Plan” a set of indicators of health outcomes will be used in order to determine whether proposed objectives have been achieved, and to establish appropriate adjustments if objectives were not meet. Indicators of healthcare quality for asthma proposed by a multidisciplinary expert Group are shown in Table 9.2<sup>50</sup>.

## 9.4 Telemedicine and asthma

Advances in knowledge and information technology make it possible to provide medical care for chronic conditions such as asthma. The terminology used to define healthcare based on the new technologies is continually evolving. It has been proposed to use the term *telehealthcare* as a general term, encompassing all the different forms of telemedicine-related healthcare. This term includes<sup>51</sup>:

- Tele-monitoring that involves storing and forwarding patients’ data.
- Tele-consultation is the use of technology allowing remote consultation between a patient and a clinician.
- Telemedicine that involved consultation among healthcare professionals.

Technology is based on 3 main strategies<sup>52</sup>:

- Support for patients’ self-management through the use of automatic medication-taking reminders (tele-reminder) to improve adherence, educational games to improve knowledge or modify the attitude towards the disease, and tele-monitoring of clinical variables (PEF, use of medication, etc.).
- Remote consultation with a healthcare profesional.
- Computerized systems to aid decision-making for both physicians and patients.

The combined use of these strategies, which includes tele-case management or tele-consultation, improves the control of the disease and the quality of life of patients<sup>52,53</sup>.

B

**RECOMMENDATIONS**

- 9.1. To achieve quality in continuing care of asthma, coordination of different healthcare levels, involvement of the patient and nursing as well as the rational use of resources is recommended. **R1**
- 9.2. It is suggested to promote the development of Asthma Units because they provide a better control of the disease, decreasing exacerbations and improving health-related quality of life of patients, with a favorable cost-effectiveness balance. **R2**
- 9.3. It is recommended to include a diffusion and implementation plan of this guideline to achieve the objectives of improving the level of training of healthcare professionals. **R2**
- 9.4. The GEMA implementation plan proposes: implementation of actions in a local specific health area; identification of local opinion leaders and engage them in this endeavor; adaptation of GEMA to the healthcare reality of the area; arrangement of an education plan for the professionals involved; and adjustment of actions according to whether objectives assessed by health outcomes have been attained. **R2**
- 9.5. The use of telemedicine or medical tele-assistance based on strategies of “tele-cases” or tele-consultation is proposed, given that it improves control of disease and quality of life of patients with asthma **R2**

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